Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	101	(remnant or coercive or hysteresis) near10 magnetic?	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 12:12
L2	0	l1 same (probe or complex)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:08
L3	0	l1 same analyte	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:08
L4	733	(remnant or coercive or hysteresis) same (magnetic or magnetically or magnet) same (probe or complex or binding or bound)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 13:05
L5	194	(remnant or coercive or hysteresis) near15 (magnetic or magnetically or magnet) near15 (probe or complex or binding or bound)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:09
L6	118	(remnant or coercive or hysteresis) near15 (magnetic or magnetically or magnet) near15 (probe or complex)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:10
L7	91	(remnant or coercive or hysteresis) near10 (magnetic or magnetically or magnet) near10 (probe or complex)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:10
L8	90	l6 and @py<"2003"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:11
L9	1	l7 same (target or analyte)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:12
L10	3	l7 same (binding or formation)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:12
L11	162	(remnant or coercive or hysteresis) near6 (magnetic or magnetically or magnet) near20 (probe or complex or binding or bound)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:18

L12	98	(remnant or coercive or hysteresis) near6 (magnetic or magnetically or magnet) near20 (probe or complex)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:19
L13	95	(remnant or coercive or hysteresis) near6 (magnetic or magnetically or magnet) near15 (probe or complex)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 11:19
L14	5780	(435/7.1).CCLS.	USPAT; EPO	OR	OFF	2005/08/11 11:19
L15	0	l13 and l14	USPAT; EPO	OR	OFF	2005/08/11 11:19
L16	0	l13 and l14	USPAT; EPO	OR	OFF	2005/08/11 11:20
L17	22	l13 same complex	USPAT; EPO	OR	OFF	2005/08/11 11:20
L18	2	raster near8 scan near10 (magnetic or magnetically) near10 (complex or probe)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 12:52
L19	84	(giant adj1 magnetoresistive) same (bind or complex or probe)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 12:53
L20	9	l19 and (DNA or protein or peptide or carbohydrate or nucleic)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 12:53
L21	11	(remnant or coercive or hysteresis) same (magnetic or magnetically or magnet) same (probe or complex or binding or bound) same (DNA or protein or peptide or carbohydrate or nucleic)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/11 13:06

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NEWS	16	APR 28	Improved searching of U.S. Patent Classifications for U.S. patent records in CA/CAplus
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L5	0	FILE IMSDRUGCONF
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L7 605 FILE PASCAL

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L4 HAS NO ANSWERS
L5 HAS NO ANSWERS
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L9 6 DUP REM L1-L6 (0 DUPLICATES REMOVED)

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L9 ANSWER 1 OF 6 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2002:34415411 BIOTECHNO
TITLE: Application of recombinant activated factor VII during surgery for a giant skull base hemangiopericytoma to achieve safe hemostasis: Case report
AUTHOR: Gerlach R.; Marquardt G.; Wissing H.; Scharrer I.; Raabe A.; Seifert V.
CORPORATE SOURCE: Dr. R. Gerlach, Department of Neurosurgery, Johann Wolfgang Goethe-University, Schleusenweg 2-16, 60528 Frankfurt am Main, Germany.
E-mail: r.gerlach@em.uni-frankfurt.de
SOURCE: Journal of Neurosurgery, (2002), 96/5 (946-948), 13 reference(s)
CODEN: JONSAC ISSN: 0022-3085
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2002:34415411 BIOTECHNO
AB The authors report on a 64-year-old woman with a huge recurrent skull base hemangiopericytoma, in whom they encountered severe difficulty in attaining intraoperative hemostasis. Standard surgical hemostatic methods and the administration of fresh-frozen plasma and prothrombin **complex** concentrates failed to stop diffuse bleeding from an inoperable tumor **remnant**. At a critical point during the operation, the intravenous administration of recombinant activated factor VII, combined with mechanical compression, finally led to satisfactory hemostasis. The rationale for using recombinant activated factor VII in situations of uncontrolled bleeding during neurosurgical procedures is discussed, along with the literature in which the use of recombinant activated factor VII as a maneuver of last resort is reported for hemostasis in other surgical fields.

L9 ANSWER 2 OF 6 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2001:37371284 BIOTECHNO
TITLE: New Insights into the Heparan Sulfate Proteoglycan-binding Activity of Apolipoprotein E
AUTHOR: Libeu C.P.; Lund-Katz S.; Phillips M.C.; Wehrli S.; Hernaiz M.J.; Capila I.; Linhardt R.J.; Raffai R.L.;

Newhouse Y.M.; Zhou F.; Weisgraber K.H.
CORPORATE SOURCE: K.H. Weisgraber, Gladstone Inst. of Cardiovasc. Dis., P.O. Box 419100, San Francisco, CA 94141-9100, United States.
E-mail: kweisgraber@gladstone.ucsf.edu
SOURCE: Journal of Biological Chemistry, (19 OCT 2001), 276/42 (39138-39144), 58 reference(s)
CODEN: JBCHA3 ISSN: 0021-9258
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:37371284 BIOTECHNO
AB Defective binding of apolipoprotein E (apoE) to heparan sulfate proteoglycans (HSPGs) is associated with increased risk of atherosclerosis due to inefficient clearance of lipoprotein **remnants** by the liver. The interaction of apoE with HSPGs has also been implicated in the pathogenesis of Alzheimer's disease and may play a role in neuronal repair. To identify which residues in the heparin-binding site of apoE and which structural elements of heparan sulfate interact, we used a variety of approaches, including glycosaminoglycan specificity assays, .sup.1.sup.3C nuclear **magnetic** resonance, and heparin affinity chromatography. The formation of the high affinity **complex** required Arg-142, Lys-143, Arg-145, Lys-146, and Arg-147 from apoE and N- and 6-O-sulfo groups of the glucosamine units from the heparin fragment. As shown by molecular modeling, using a high affinity binding octasaccharide fragment of heparin, these findings are consistent with a binding mode in which five saccharide residues of fully sulfated heparan sulfate lie in a shallow groove of the α-helix that contains the HSPG-binding site (helix 4 of the four-helix bundle of the 22-kDa fragment). This groove is lined with residues Arg-136, Ser-139, His140, Arg-142, Lys-143, Arg-145, Lys-146, and Arg-147. In the model, all of these residues make direct contact with either the 2-O-sulfo groups of the iduronic acid monosaccharides or the N- and 6-O-sulfo groups of the glucosamine sulfate monosaccharides. This model indicates that apoE has an HSPG-binding site highly complementary to heparan sulfate rich in N- and O-sulfo groups such as that found in the liver and the brain.

L9 ANSWER 3 OF 6 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1997:28094642 BIOTECHNO
TITLE: Paleomagnetic and rock **magnetic** evidence for inverse zoning in the Parguaza batholith (southwestern Venezuela) and its implications about tectonics of the Guyana shield
AUTHOR: Miron Valdespino O.E.; Costanzo Alvarez V.
CORPORATE SOURCE: O.E. Miron Valdespino, BP Venezuela, Edif. Seguros SudAmerica, El Rosal, Caracas, Venezuela.
SOURCE: Precambrian Research, (1997), 85/1-2 (1-25)
PUBLISHER ITEM IDENT.: S030192689700020X
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
AN 1997:28094642 BIOTECHNO
AB We report paleomagnetic and rock **magnetic** data from the rapakivi granites of the Parguaza batholith (Guyana Precambrian Shield, southwestern Venezuela). These results suggest that the pluton is inversely zoned with respect to the cooling ages. In order to explain such an age pattern, tentative structural settings are proposed placing the Parguaza intrusions in a plate tectonic context. Six sites were sampled along a 200 km transect that cuts through the northern lobe of the batholith. Thermomagnetic curves, X-ray diffraction and fluorescence, **hysteresis** loops, thermal and alternating field (AF) intensity plots, transmission (TEM) and scanning (SEM) electron microscope analyses

and Konigsberger ratios (Q<inf>n</inf> values) were used to identify the different **magnetic** minerologies and their distribution of grain sizes. Magnetite, titanomagnetite near magnetite in composition and deuteric hematite are the three carriers of natural remanent magnetizations (NRMs) in these rocks. **Magnetic** granulometry indicators such as Konigsberger ratios (Q<inf>n</inf> values) suggest the dominant presence of single domain magnetites with average grain sizes grading from finer to coarser away from the center of the transect. The paleomagnetic results reveal the existence of two primary thermoremanent and/or thermochemical magnetizations (TRMs/TCRMs) for sites CSP-3, PI-2 and PI-4 (Decl. = 328°, Inc. = -21°C, k = 15, α<inf>95</inf> = 11.4°) and sites CSP-2, PI-1 and PI-3 (Decl. = 16°, Incl. = 87°, k = 10, α<inf>95</inf> = 13°), respectively. There is also a poorly defined G3R.sub.2 magnetization (Decl. = 284°, Incl. = -86°, k = 6, α<inf>95</inf> = 27°) found in sites CSP-2, PI-1 and PI-3. The overlap of coercivities and the unblocking temperatures spectra, probably resulting from the coexistence of primary single-domain **magnetic** mineralogies with secondary exsolutions of single-domain-like Ti-poor (Fe-rich) regions (almost pure magnetite) in multidomain titanomagnetite grains, in most cases precludes the complete resolution of hybrid G1 (N + R) or G3 (N + R). The relative ages for these components were determined using a map of Rb/Sr model age 'chrontours'. G1 and G3 are the older and the younger TRMs/TCRMs, respectively, and were acquired at two discrete moments of the batholith's geological history. The final map resulting from integrating the paleomagnetic and Rb/Zr data, shows an age pattern for this batholith, and the rest of the intrusions that belong to the Parguaza Igenous **Complex**, that could be explained either as the effect of inverse cooling of a single intrusive body, the sequential emplacement of magmas controlled by normal faulting or an internal tectonism resulting in a system of NE-trending horsts and grabens cutting through the pluton. Because of its feasibility and agreement with the most recent theories about the tectonic evolution of the Guyana Shield, we favor the latter hypothesis.

L9 ANSWER 4 OF 6 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1996:26106352 BIOTECHNO

TITLE: Novel hybrid spin systems of 7,7',8,8'-tetracyanoquinodimethane (TCNQ) radical anions and 4-amino-3,5-bis(pyridin-2-yl)-1,2,4-triazole (abpt).

AUTHOR: Kunkeler P.J.; Van Koningsbruggen P.J.; Cornelissen J.P.; Van Der Horst A.N.; Van Der Kraan A.M.; Spek A.L.; Haasnoot J.G.; Reedijk J.

CORPORATE SOURCE: Leiden Institute of Chemistry, Gorlaeus Laboratories, Leiden University, P.O. Box 9502,2300 RA Leiden, Netherlands.

SOURCE: Journal of the American Chemical Society, (1996), 118/9 (2190-2197)
CODEN: JACSAT ISSN: 0002-7863

DOCUMENT TYPE: Journal; Article

COUNTRY: United States

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1996:26106352 BIOTECHNO

AB The compound ¢Fe(abpt).sub.2(TCNQ).sub.2!, where TCNQ is the radical anion 7,7',8,8'-tetracyanoquinodimethane and abpt = 4-amino-3,5-bis(pyridin-2-yl)-1,2,4-triazole, is an Fe(II) **complex** containing coordinated radical anions which undergoes a thermally induced spin-crossover with T(c) = 280 K. Variable-temperature **magnetic** susceptibility (7-460 K) and .sup.5.sup.7Fe Mossbauer spectroscopy data give evidence for a complete S = 2 (high-spin) .rarwovfwdarw. S = 0 (low-spin) transition, taking place gradually,

without **hysteresis**. The X-ray structure has been determined at 298 K (1) and 100 K (2). The compound crystallizes in the triclinic space group P1β with one molecule in the unit cell of dimensions a = 9.277(2) Å, b = 9.876(3) Å, c = 12.272(2) Å, α = 69.52(2)°, β = 86.92(2)°, and γ = 81.73(2)° for 1 and a = 9.236(2) Å, b = 9.684(1) Å, c = 12.137(2) Å, α = 69.26(1)°, β = 87.53(2)°, and γ = 82.38(1)° for 2. Two abpt ligands coordinating via pyridyl-N1A and triazole-N1 are in the equatorial positions. Fe-N1 and Fe-N1A distances are 2.08(1) and 2.12(1) Å for 1 and 2.00(2) and 2.02(1) Å for 2, respectively. TCNQ molecules coordinate axially at remarkably short distances i.e., Fe-N1T = 2.16(1) Å for 1 and 1.93(1) Å for 2. The TCNQ molecules are stacked in pairs yielding diamagnetic entities. The FT-IR spectra (100-300 K) show that the TCNQ ν(CN) vibrations are a fingerprint for the different spin states. In the series of the isostructural ¢M(II)(abpt).sub.2(TCNQ).sub.2! (M = Mn, Fe, Co, Ni, Cu, Zn) compounds, the ν(CN) absorptions show a shift to higher frequencies as a function of the crystal field stabilization energy. Above T(c), the Cu(II)-doped Fe(II) species shows a broad signal with g(perpendicular to) = 2.09 and g(parallel with) = 2.25 and hyperfine structure (A(parallel with) = 180 G). At T(c) and below, the spectrum becomes better resolved and now shows superhyperfine structure (A(Nparallel with) = 16 G; nine lines). Above T(c), the Mn(II)-doped Fe(II) compound shows a very broad signal at g = 2.00. The spectrum sharpens at T(c) to give a clearly resolved spectrum corresponding to a **magnetically** isolated Mn(II) ion in a tetragonal environment. The signal is split by the zero-field splitting, yielding major signals at g = 1.6 and g = 5.5 and six hyperfine lines (A(parallel with) = 80 G) that are clearly visible on both signals.

L9 ANSWER 5 OF 6 LIFESCI COPYRIGHT 2005 CSA on STN
ACCESSION NUMBER: 97:54089 LIFESCI
TITLE: Limbic lobe embryology and anatomy: Dissection and MR of the medial surface of the fetal cerebral hemisphere
AUTHOR: Kier, E.L.; Fulbright, R.K.; Bronen, R.A.
CORPORATE SOURCE: Sect. Neuroradiol., Yale Univ. Sch. Med., 333 Cedar St, New Haven, CT 06520, USA
SOURCE: AM. J. NEURORADIOL., (1995) vol. 16, no. 9, pp. 1847-1853. ISSN: 0195-6108.
DOCUMENT TYPE: Journal
FILE SEGMENT: N3
LANGUAGE: English
SUMMARY LANGUAGE: English
AB PURPOSE: To facilitate understanding of limbic lobe anatomy by showing embryologic transformations of the medial surface of the cerebral hemisphere. METHODS: Brains from fetal specimens ranging from 13 to 24 weeks of gestational age were dissected. Photographs were made of the medial surface of the cerebral hemisphere. MR images of different fetal specimens of similar age were made for comparison of MR anatomy with dissected material. RESULTS: At 13 weeks, the entire inner limbic arch of the hippocampal formation is visible on the medial surface of the cerebral hemisphere. The hippocampal sulcus extends from frontal lobe to temporal lobe. At 16 weeks, the outer neocortical limbic arch of the subcallosal area, cingulate gyrus, and parahippocampus gyrus is present. Growth of the corpus callosum is associated with reduction in size of the hippocampal formation in the frontal lobe. The sulcus of the corpus callosum is the **remnant** of the anterior part of the hippocampal suclus. At 18 weeks, growth of the parahippocampal gyrus begins to conceal the hippocampal formation. The supracallosal gyrus (indusium griseum), hidden from view by the corpus callosum, and the paraterminal gyrus are **remnants** of the previously larger hippocampal formation. CONCLUSIONS: Analysis of fetal specimens in different developmental stages with dissection and MR provides insight into embryologic transformations

responsible for the **complex** anatomy of the limbic lobe.

L9 ANSWER 6 OF 6 LIFESCI COPYRIGHT 2005 CSA on STN
ACCESSION NUMBER: 96:25509 LIFESCI
TITLE: **Magnetic** and structural properties of as-milled and heat-treated bcc-Fe sub(70)Cu sub(30) alloy
AUTHOR: Crespo, P.; Navarro, I.; Hernando, A.; Rodriguez, P.; Garcia Escorial, A.; Barandiaran, J.M.; Drbohlav, O.; Yavari, A.R.
CORPORATE SOURCE: Instituto de Magnetismo Aplicado (RENFE-UCM), Madrid, Spain
SOURCE: J MAGN MAGN MATER, (1995) vol. 150, no. 3, pp. 409-416. ISSN: 0304-8853.
DOCUMENT TYPE: Journal
FILE SEGMENT: S
LANGUAGE: English
AB A ferromagnetic solid solution with a nominal atomic composition Fe sub(70)Cu sub(30) and a body-centered structure has been obtained by high-energy ball milling. The decomposition of the system is monitored by X-ray diffraction (XRD), **magnetic** measurements and Mossbauer spectroscopy. According to XRD, for heating temperatures below 723 K there is only a bcc phase in the material, while for heating temperatures above 723 K a new phase, with a fcc structure, appears, suggesting that the solid solution has decomposed into bcc-Fe and fcc-Cu. However, the **magnetic** behavior observed during the decomposition process indicates that this evolution is more **complex** than the simple decomposition into the equilibrium phases. This behavior can be summarized in two points: (1) a decrease in the magnetization at 5 K, and (2) drastic changes in the **coercive** field with the thermal treatment, soft **magnetic** behavior for the material in the as-milled state, superparamagnetism for low heating temperatures and a hardening of the material heated to above 723 K, for which the values of the **coercive** field at room temperature are several times higher than those for the as-milled sample. The Mossbauer spectroscopy performed at room temperature shows that for the heat-treated samples the Fe atoms are in two different phases: a ferromagnetic phase, which evolves to bcc-Fe, and a paramagnetic phase.

=> (swing time) and (magnetic or magnetically or magnet) and probe
L10 0 FILE AGRICOLA
L11 0 FILE BIOTECHNO
L12 0 FILE CONFSCI
L13 0 FILE HEALSAFE
L14 0 FILE IMSDRUGCONF
L15 0 FILE LIFESCI
L16 0 FILE PASCAL

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=> (swing time) and (magnetic or magnetically or magnet) and complex
L18 0 FILE AGRICOLA
L19 0 FILE BIOTECHNO
L20 0 FILE CONFSCI
L21 0 FILE HEALSAFE
L22 0 FILE IMSDRUGCONF
L23 0 FILE LIFESCI
L24 0 FILE PASCAL

TOTAL FOR ALL FILES
L25 0 (SWING TIME) AND (MAGNETIC OR MAGNETICALLY OR MAGNET) AND COMPLE
X

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=> (saturation magnetization) and complex and probe
L26           0 FILE AGRICOLA
L27           0 FILE BIOTECHNO
L28           0 FILE CONFSCI
L29           0 FILE HEALSAFE
L30           0 FILE IMSDRUGCONF
L31           0 FILE LIFESCI
L32           2 FILE PASCAL

TOTAL FOR ALL FILES
L33           2 (SATURATION MAGNETIZATION) AND COMPLEX AND PROBE

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L34   ANSWER 1 OF 2  PASCAL  COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on
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ACCESSION NUMBER:         1994-0558460   PASCAL
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TITLE (IN ENGLISH):       Magnetic flux mapping, magnetization, and current
                          distributions of YBa.sub.2Cu.sub.3O.sub.7 thin films
                          by scanning Hall probe measurements
AUTHOR:                   XING W.; HEINRICH B.; ZHOU Hu; FIFE A. A.; CRAGG A. R.
CORPORATE SOURCE:         Department of Physics, Simon Fraser University,
                          Burnaby V5A 1S6, British Columbia, Canada; CTF Systems
                          Inc., 15-1750 McLean Avenue, Port Coquitlam V3C 1M9,
                          British Columbia, Canada
SOURCE:                   Journal of Applied Physics, (1994-10-01), 76(7),
                          4244-4255
                          ISSN: 0021-8979  CODEN: JAPIAU
DOCUMENT TYPE:            Journal
BIBLIOGRAPHIC LEVEL:      Analytic
COUNTRY:                  United States
LANGUAGE:                 English
AVAILABILITY:             INIST-126
AN    1994-0558460   PASCAL
CP    Copyright .COPYRGT. 1994 American Institute of Physics. All rights
      reserved.
AB    Mapping of the magnetic flux distribution in a square-shaped
      superconducting YBa.sub.2Cu.sub.3O.sub.7 thin film was carried out using
      a scanning micro-Hall probe with a spatial resolution of about
      25 μm. Calculation procedures for converting the measured flux map to
      the film current distribution are discussed. The flux penetration with
      the applied field perpendicular to the film surface was studied in
      initially zero-field-cooled samples. With full flux penetration, the film
      sheet currents follow the sample edges, whereas with partial flux
      penetration, the sheet currents are more complex and include
      multiply connected patterns. In both cases the sheet currents change
      their flow direction abruptly along the sample diagonals where the
      shielding is more effective, and this results in distinctive minima of
      the flux penetration. The saturation magnetization
      for a square-shaped sample of side 2a was found to be identical to that
      for disc and cylindrical samples of radius a. It is shown that the
      multiply connected current patterns corresponding to various parts of the
      hysteresis cycle can be reconstructed from the superposition of two
      appropriate virgin current distributions. The critical current density
```

was dependent on magnetic flux density, and it was found to follow the Kim model.

L34 ANSWER 2 OF 2 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1992-0617743 PASCAL
TITLE (IN ENGLISH): A study of colour changes in purple-green slate by petrological and rock-magnetic methods
AUTHOR: BORRADAILE G. J.; MACKENZIE A.; JENSEN E.
CORPORATE SOURCE: Lakehead univ., geology dep., Thunder Bay ON P7B 5E1, Canada
SOURCE: Tectonophysics, (1992), 200(1-3), 157-172, 3 tabl., refs. 1 p.
Illustrations; Table; Analysis
ISSN: 0040-1951 CODEN: TCTOAM
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-12207, 354000023137580110
AN 1992-0617743 PASCAL
AB The purple Cambrian slates of North Wales show colour changes to green in bedding-parallel patches and ellipsoidal spots. These are referred to as reduction spots but the process is more **complex**; the colour change is not simply associated with the reduction of iron. The green discoloration is accompanied by diffusion of Fe.sup.3.sup.+ away from, and possibly by mg and Ca towards the green material. The actual colour change is brought about by the replacement of the fine metamorphic hematite pigment with magnetite. However, coarser clastic hematite persists in the green slate. The green slate has twice as much chlorite and traces of magnetite, despite having less total Fe. The additional chlorite is chiefly responsible for the doubling of the magnetic susceptibility of the green slate with respect to the purple slate

=> (remnant or coercive or hysteresis) and (magnetic or magnetically or magnet) and (DNA or protein or peptide or carbohydrate)
L35 0 FILE AGRICOLA
L36 16 FILE BIOTECHNO
L37 0 FILE CONFSCI
L38 0 FILE HEALSAFE
L39 0 FILE IMSDRUGCONF
L40 5 FILE LIFESCI
L41 27 FILE PASCAL

TOTAL FOR ALL FILES
L42 48 (REMNANT OR COERCIVE OR HYSTERESIS) AND (MAGNETIC OR MAGNETICALLY OR MAGNET) AND (DNA OR PROTEIN OR PEPTIDE OR CARBOHYDRATE)

=> dup rem
ENTER L# LIST OR (END):142
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L42
L43 43 DUP REM L42 (5 DUPLICATES REMOVED)

=> 143 and (binding or bound or attach or complex)
L44 0 S L43
L45 0 FILE AGRICOLA
L46 16 S L43
L47 6 FILE BIOTECHNO
L48 0 S L43
L49 0 FILE CONFSCI

```
L50          0 S L43
L51          0 FILE HEALSAFE
L52          0 S L43
L53          0 FILE IMSDRUGCONF
L54          4 S L43
L55          0 FILE LIFESCI
L56         23 S L43
L57          3 FILE PASCAL

TOTAL FOR ALL FILES
L58          9 L43 AND (BINDING OR BOUND OR ATTACH OR COMPLEX)

=> d 158 ibib abs total

L58   ANSWER 1 OF 9  BIOTECHNO  COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER:        2001:37371284   BIOTECHNO
TITLE:                   New Insights into the Heparan Sulfate Proteoglycan-
                         binding Activity of Apolipoprotein E
AUTHOR:                  Libeu C.P.; Lund-Katz S.; Phillips M.C.; Wehrli S.;
                         Hernaiz M.J.; Capila I.; Linhardt R.J.; Raffai R.L.;
                         Newhouse Y.M.; Zhou F.; Weisgraber K.H.
CORPORATE SOURCE:        K.H. Weisgraber, Gladstone Inst. of Cardiovasc. Dis.,
                         P.O. Box 419100, San Francisco, CA 94141-9100, United
                         States.
                         E-mail: kweisgraber@gladstone.ucsf.edu
SOURCE:                  Journal of Biological Chemistry, (19 OCT 2001), 276/42
                         (39138-39144), 58 reference(s)
                         CODEN: JBCHA3  ISSN: 0021-9258
DOCUMENT TYPE:           Journal; Article
COUNTRY:                 United States
LANGUAGE:                English
SUMMARY LANGUAGE:        English
AN    2001:37371284   BIOTECHNO
AB    Defective binding of apolipoprotein E (apoE) to heparan sulfate
      proteoglycans (HSPGs) is associated with increased risk of
      atherosclerosis due to inefficient clearance of lipoprotein
      remnants by the liver. The interaction of apoE with HSPGs has
      also been implicated in the pathogenesis of Alzheimer's disease and may
      play a role in neuronal repair. To identify which residues in the
      heparin-binding site of apoE and which structural elements of
      heparan sulfate interact, we used a variety of approaches, including
      glycosaminoglycan specificity assays, .sup.1.sup.3C nuclear
      magnetic resonance, and heparin affinity chromatography. The
      formation of the high affinity complex required Arg-142,
      Lys-143, Arg-145, Lys-146, and Arg-147 from apoE and N- and 6-O-sulfo
      groups of the glucosamine units from the heparin fragment. As shown by
      molecular modeling, using a high affinity binding
      octasaccharide fragment of heparin, these findings are consistent with a
      binding mode in which five saccharide residues of fully sulfated
      heparan sulfate lie in a shallow groove of the α-helix that
      contains the HSPG-binding site (helix 4 of the four-helix
      bundle of the 22-kDa fragment). This groove is lined with residues
      Arg-136, Ser-139, His140, Arg-142, Lys-143, Arg-145, Lys-146, and
      Arg-147. In the model, all of these residues make direct contact with
      either the 2-O-sulfo groups of the iduronic acid monosaccharides or the
      N- and 6-O-sulfo groups of the glucosamine sulfate monosaccharides. This
      model indicates that apoE has an HSPG-binding site highly
      complementary to heparan sulfate rich in N- and O-sulfo groups such as
      that found in the liver and the brain.

L58   ANSWER 2 OF 9  BIOTECHNO  COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER:        2003:36799803   BIOTECHNO
TITLE:                   Characterization of the heparin binding
```

sites in human apolipoprotein E
AUTHOR: Saito H.; Dhanasekaran P.; Nguyen D.; Baldwin F.; Weisgraber K.H.; Wehrli S.; Phillips M.C.; Lund-Katz S.
CORPORATE SOURCE: S. Lund-Katz, Joseph Stokes, Jr. Research Inst., Children's Hospital of Philadelphia, Abramson Research Bldg., 3615 Civic Center Blvd., Philadelphia, PA 19104-4318, United States.
E-mail: katzs@email.chop.edu
SOURCE: Journal of Biological Chemistry, (25 APR 2003), 278/17 (14782-14787), 54 reference(s)
CODEN: JBCHA3 ISSN: 0021-9258
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2003:36799803 BIOTECHNO
AB Apolipoprotein (apo) E mediates lipoprotein **remnant** clearance via interaction with cell-surface heparan sulfate proteoglycans. Both the 22-kDa N-terminal domain and 10-kDa C-terminal domain of apoE contain a heparin **binding** site; the N-terminal site overlaps with the low density lipoprotein receptor **binding** region and the C-terminal site is undefined. To understand the molecular details of the apoE-heparin interaction, we defined the microenvironments of all 12 lysine residues in intact apoE3 and examined their relative contributions to heparin **binding**. Nuclear **magnetic** resonance measurements showed that, in apoE3-dimyristoyl phosphatidylcholine discs, Lys-143 and -146 in the N-terminal domain and Lys-233 in the C-terminal domain have unusually low pK.sub.a values, indicating high positive electrostatic potential around these residues. **Binding** experiments using heparin-Sepharose gel demonstrated that the lipid-free 10-kDa fragment interacted strongly with heparin and a point mutation K233Q largely abolished the **binding**, indicating that Lys-233 is involved in heparin **binding** and that an unusually basic lysine microenvironment is critical for the interaction with heparin. With lipidated apoE3, it is confirmed that the Lys-233 site is completely masked and the N-terminal site mediates heparin **binding**. In addition, mutations of the two heparin **binding** sites in intact apoE3 demonstrated the dominant role of the N-terminal site in the heparin **binding** of apoE even in the lipid-free state. These results suggest that apoE interacts predominately with cell-surface heparan sulfate proteoglycans through the N-terminal **binding** site. However, Lys-233 may be involved in the **binding** of apoE to certain cell-surface sites, such as the **protein** core of biglycan.

L58 ANSWER 3 OF 9 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2002:35137113 BIOTECHNO
TITLE: Identification of the ice-**binding** face of antifreeze **protein** from Tenebrio molitor
AUTHOR: Marshall C.B.; Daley M.E.; Graham L.A.; Sykes B.D.; Davies P.L.
CORPORATE SOURCE: P.L. Davies, Department of Biochemistry, Queen's University, Kingston, Ont. K7L 3N6, Canada.
E-mail: daviesp@post.queensu.ca
SOURCE: FEBS Letters, (09 OCT 2002), 529/2-3 (261-267), 25 reference(s)
CODEN: FEBLAL ISSN: 0014-5793
PUBLISHER ITEM IDENT.: S0014579302033550
DOCUMENT TYPE: Journal; Article
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English

AN 2002:35137113 BIOTECHNO
AB The beetle Tenebrio molitor produces several isoforms of a highly disulfide-bonded β-helical antifreeze **protein** with one surface comprised of an array of Thr residues that putatively interacts with ice. In order to use mutagenesis to identify the ice-**binding** face, we have selected an isoform that folds well and is tolerant of amino acid substitution, and have developed a heating test to monitor refolding. Three different types of steric mutations made to the putative ice-**binding** face reduced thermal **hysteresis** activity substantially while a steric mutation on an orthogonal surface had little effect. NMR spectra indicated that all mutations affected **protein** folding to a similar degree and demonstrated that most of the **protein** folded well. The large reductions in activity associated with steric mutations in the Thr array strongly suggest that this face of the **protein** is responsible for ice **binding**. .COPYRGT. 2002 Federation of European Biochemical Societies. Published by Elsevier Science B.V. All rights reserved.

L58 ANSWER 4 OF 9 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2001:32198284 BIOTECHNO
TITLE: Interaction of the N-terminal domain of apolipoprotein E4 with heparin
AUTHOR: Dong J.; Peters-Libeu C.A.; Weisgraber K.H.; Segelke B.W.; Rupp B.; Capila I.; Hernaiz M.J.; LeBrun L.A.; Linhardt R.J.
CORPORATE SOURCE: R.J. Linhardt, Department of Chemistry, University of Iowa, Iowa City, IA 52242, United States.
SOURCE: Biochemistry, (06 MAR 2001), 40/9 (2826-2834), 47 reference(s)
CODEN: BICHAW ISSN: 0006-2960
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2001:32198284 BIOTECHNO
AB Apolipoprotein E (apoE) is an important lipid-transport **protein** in human plasma and brain. It has three common isoforms (apoE2, apoE3, and apoE4). ApoE is a major genetic risk factor in heart disease and in neurodegenerative disease, including Alzheimer's disease. The interaction of apoE with heparan sulfate proteoglycans plays an important role in lipoprotein **remnant** uptake and likely in atherogenesis and Alzheimer's disease. Here we report our studies of the interaction of the N-terminal domain of apoE4 (residues 1-191), which contains the major heparin-**binding** site, with an enzymatically prepared heparin oligosaccharide. Identified by its high affinity for the N-terminal domain of apoE4, this oligosaccharide was determined to be an octasaccharide of the structure ΔUAp2S(1→[4)-α-D-GlcNpS6S-(1→4)-α-L-IdoAp2S (1→].sub.34)-α-D-GlcNpS6S by nuclear **magnetic** resonance spectroscopy, capillary electrophoresis, and polyacrylamide gel electrophoresis. Kinetic analysis of the interaction between the N-terminal apoE4 fragment and immobilized heparin by surface plasmon resonance yielded a K.sub.d of 150 nM. A similar **binding** constant (K.sub.d = 140 nM) was observed for the interaction between immobilized N-terminal apoE4 and the octasaccharide. Isothermal titration calorimetry revealed a K.sub.d of 75 nM for the interaction of the N-terminal apoE fragment and the octasaccharide with a **binding** stoichiometry of approximately 1:1. Using previous studies and molecular modeling, we propose a **binding** site for this octasaccharide in a basic residue-rich region of helix 4 of the N-terminal fragment. From the X-ray crystal structure of the N-terminal apoE4, we predicted that **binding** of the octasaccharide at this site would result in a change in intrinsic fluorescence. This prediction was confirmed experimentally by an observed

increase in fluorescence intensity with octasaccharide **binding** corresponding to a K.sub.d of .apprx.1 μM.

L58 ANSWER 5 OF 9 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2000:30604413 BIOTECHNO
TITLE: β-Helix structure and ice- **binding** properties of a hyperactive antifreeze **protein** from an insect
AUTHOR: Graether S.P.; Kuiper M.J.; Gagne S.M.; Walker V.K.; Jia Z.; Sykes B.D.; Davies P.L.
CORPORATE SOURCE: P.L. Davies, Department of Biochemistry, Queen's University, Kingston, Ont. K7L 3N6, Canada. E-mail: daviesp@post.queensu.ca
SOURCE: Nature, (20 JUL 2000), 406/6793 (325-328) CODEN: NATUAS ISSN: 0028-0836
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30604413 BIOTECHNO
AB Insect antifreeze **proteins** (AFP) are considerably more active at inhibiting ice crystal growth than AFP from fish or plants. Several insect AFPs, also known as thermal **hysteresis proteins**, have been cloned and expressed. Their maximum activity is 3-4 times that of fish AFPs and they are 10-100 times more effective at micromolar concentrations. Here we report the solution structure of spruce budworm (Choristoneura fumiferana) AFP and characterize its ice-**binding** properties. The 9-kDa AFP is a β-helix with a triangular cross-section and rectangular sides that form stacked parallel β-sheets; a fold which is distinct from the three known fish AFP structures. The ice-**binding** side contains 9 of the 14 surface-accessible threonines organized in a regular array of TXT motifs that match the ice lattice on both prism and basal planes. In support of this model, ice crystal morphology and ice-etching experiments are consistent with AFP **binding** to both of these planes and thus may explain the greater activity of the spruce budworm antifreeze.

L58 ANSWER 6 OF 9 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1998:29102029 BIOTECHNO
TITLE: Solid-state NMR studies of **magnetically** aligned phospholipid membranes: Taming lanthanides for membrane **protein** studies
AUTHOR: Prosser R.S.; Volkov V.B.; Shiyanovskaya I.V.
CORPORATE SOURCE: R.S. Prosser, Department of Chemistry, Kent State University, Kent, OH 44242, United States. E-mail: sprosser@silica.kent.edu
SOURCE: Biochemistry and Cell Biology, (1998), 76/2-3 (443-451), 32 reference(s) CODEN: BCBIEQ ISSN: 0829-8211
DOCUMENT TYPE: Journal; Article
COUNTRY: Canada
LANGUAGE: English
SUMMARY LANGUAGE: English; French
AN 1998:29102029 BIOTECHNO
AB The addition of lanthanides (Tin.sup.3.sup.+, Yb.sup.3.sup.+, Er.sup.3.sup.+, or Eu.sup.3.sup.+) to a solution of long-chain phospholipids such as dimyristoylphosphatidylcholine (DMPC) and short-chain phospholipids such as dihexanoylphosphatidylcholine (DHPC) is known to result in a bilayer phase in which the average bilayer normal aligns parallel to an applied **magnetic** field. Lanthanide-doped bilayers have enormous potential for the study of membrane **proteins** by solid- state NMR, low-angle diffraction, and a variety of optical spectroscopic techniques. However, the addition of

lanthanides poses certain challenges to the NMR spectroscopist: coexistence of an isotropic phase and **hysteresis** effects, direct **binding** of the paramagnetic ion to the **peptide** or **protein** of interest, and severe paramagnetic shifts and line broadening. Lower water concentrations and larger DMPC/DHPC ratios than those typically used in bicelles consistently yield a single oriented bilayer phase that is stable over a wide range of temperature (.sim.35-90°C). Among the above choice of lanthanides, Yb.sup.3.sup.+ is found to give minimal paramagnetic shifts and line broadening at acceptably low concentrations necessary for alignment (i.e., Yb.sup.3.sup.+/DMPC mole ratios equal to or greater than 0.01). Finally, the addition of a phospholipid chelate, 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine - diethylenetriaminepentaacetic acid, is observed to significantly reduce paramagnetic broadening and presumably prevent direct association of the **peptide** with the lanthanide ions.

L58 ANSWER 7 OF 9 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2004-0289399 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2004 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Nitrilotriacetic acid-modified **magnetic** nanoparticles as a general agent to bind histidine-tagged **proteins**
AUTHOR: CHENJIE XU; KEMING XU; HONGWEI GU; XIAOFEN ZHONG; ZHIHONG GUO; RONGKUN ZHENG; XIXIANG ZHANG; BING XU
CORPORATE SOURCE: Department of Chemistry, Department of Physics, and Bioengineering Program, The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong
SOURCE: Journal of the American Chemical Society, (2004), 126(11), 3392-3393, 10 refs.
ISSN: 0002-7863 CODEN: JACSAT
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-551, 354000113580340120
AN 2004-0289399 PASCAL
CP Copyright .COPYRGT. 2004 INIST-CNRS. All rights reserved.

L58 ANSWER 8 OF 9 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2000-0365275 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Synthesis, surface characterization, and platelet reactivity evaluation for the self-assembled monolayer of alkanethiol with sulfonic acid functionality
AUTHOR: LIN J.-C.; CHUANG W.-H.
CORPORATE SOURCE: Department of Chemical Engineering, National Cheng Kung University, Tainan, 70101, Taiwan, Province of China
SOURCE: Journal of biomedical materials research, (2000), 51(3), 413-423, 54 refs.
ISSN: 0021-9304 CODEN: JBMRBG
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-13764, 354000090166280160
AN 2000-0365275 PASCAL
CP Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.

AB Owing to the capability of fabricating a well-defined chemical structure on the surface, self-assembled alkanethiols with a variety of terminal functionalities were prepared on the gold substrate for investigating the interactions between the biological environment and synthetic surface. In this study, we report the synthesis of the sulfonic acid terminated long-chain alkanethiol, 10-mercaptodecane-sulfonic acid, for direct preparation of a self-assembled monolayer (SAM) with -SO.sub.3H functionality. Nuclear **magnetic** resonance (NMR) and elemental analysis studies indicated that a high purity of sulfonic acid terminated alkanethiol was obtained. Surface characterization results showed that the -SO.sub.3H terminated SAM is hydrophilic and has a slightly higher **hysteresis** value, possibly because of the slower chain mobility of the **bound** sulfonic acid alkanethiol. Electron spectroscopy for chemical analysis (ESCA) analysis demonstrated that the -SO.sub.3H terminal group is situated in the outermost layer of the monolayer, as previous alkanethiol SAM structure models proposed. The platelet reactivity of the -SO.sub.3H SAM was higher than that of -OH SAM but less than the -CH.sub.3 terminated one in vitro, whereas similar platelet reactivity was noticed between the -SO.sub.3H and -COOH SAMs. The higher platelet reactivity found on the -SO.sub.3H SAM could be caused by the higher surface functional group density inherent in the SAM structure and/or the composition and conformation state of the adsorbed **protein** layer.

L58 ANSWER 9 OF 9 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1995-0026586 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1995 American Institute of Physics. All rights reserved.
TITLE (IN ENGLISH): Models of stratum corneum intercellular membranes: .sup.2H NMR of macroscopically oriented multilayers
AUTHOR: FENSKE David B.; THEWALT Jenifer L.; BLOOM Myer; KITSON Neil
CORPORATE SOURCE: Liposome Research Unit, Department of Biochemistry, Faculty of Medicine, University of British Columbia, Vancouver, British Columbia V6T 1Z3 Canada; Department of Physics, University of British Columbia, Vancouver, British Columbia V6T 1Z1 Canada; Division of Dermatology, Department of Medicine, University of British Columbia, Vancouver, British Columbia V5Z 1L7 Canada
SOURCE: Biophysical Journal, (1994-10), 67(4), 1562-1573 ISSN: 0006-3495 CODEN: BIOJAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-1760

AN 1995-0026586 PASCAL
CP Copyright .COPYRGT. 1995 American Institute of Physics. All rights reserved.
AB Deuterium NMR was used to characterize model membrane systems approximating the composition of the intercellular lipid lamellae of mammalian stratum corneum (SC). The SC models, equimolar mixtures of ceramide:cholesterol:palmitic acid (CER:CHOL:PA) at pH 5.2, were contrasted with the sphingomyelin:CHOL:PA (SPM:CHOL:PA) system, where the SPM differs from the CER only in the presence of a phosphocholine headgroup. The lipids were prepared both as oriented samples and as multilamellar dispersions, and contained either perdeuterated palmitic acid (PA-d.sub.3.sub.1) or [2,2,3,4,6-.sup.2H.sub.5]CHOL (CHOL-d.sub.5). SPM:CHOL:PA-d.sub.3.sub.1 formed liquid-ordered membranes over a wide range of temperatures, with a maximum order parameter of approximately 0.4 at 50 °C for positions C3-C10 (the plateau region). The

quadrupolar splitting at C2 was significantly smaller, suggesting an orientational change at this position, possibly because of hydrogen bonding with water and/or other surface components. A comparison of the longitudinal relaxation times obtained at $\theta = 0°$ and $90°$ (where θ is the angle between the normal to the glass plates and the **magnetic** field) revealed a significant T.sub.1.sub.Z anisotropy for all positions. In contrast to the behavior observed with the SPM system, lipid mixtures containing CER exhibited a **complex** polymorphism.Between 20 and 50 °C, a significant portion of the entire membrane (as monitored by both PA-d.sub.3.sub.1 and CHOL-d.sub.5) was found to exist as a solid phase, with the remainder either a gel or liquid-ordered phase. The proportion of solid decreased as the temperature was increased and disappeared entirely above 50 °C. Between 50 and 70 °C, the membrane underwent a liquid-ordered to isotropic phase transition. These transitions were reversible but displayed considerable **hysteresis**, especially the conversion from a fluid phase to solid. The order profiles, relaxation behavior, and angular dependence of these parameters suggest strongly that both the liquid-ordered CER- and SPM-membranes are bilayers. The unusual phase behavior observed for the CER-system, particularly the observation of solid-phase lipid at physiological temperatures, may provide insight into the functioning of the permeability barrier of stratum corneum.